

YARD-MAN

OUTDOOR POWER EQUIPMENT
for all seasons



Spring

Summer



Fall

Winter



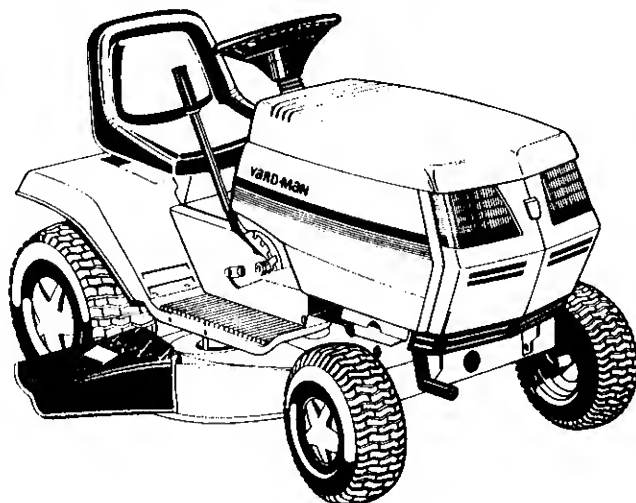
Owner's Manual

- ASSEMBLY
- OPERATION
- MAINTENANCE

IMPORTANT:
Read Safety Rules and
Instructions Carefully

FOUR WHEEL STEER LAWN TRACTORS

Thank you for purchasing an American-built product.



Model Numbers
131754F
131784G

WARNING: This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your nearest engine authorized service dealer.

IMPORTANT

RULES FOR SAFE OPERATION



THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH, IF NOT FOLLOWED, COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE YOUR UNIT. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY. WHEN YOU SEE THIS SYMBOL—



HEED ITS WARNING.



DANGER:

Your unit was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. If you violate any of these rules, you may cause serious injury to yourself or others.

1. READ THIS OWNER'S MANUAL carefully in its entirety before attempting to assemble or operate this unit. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. This unit is a precision piece of power equipment, not a plaything. Therefore exercise extreme caution at all times.
3. Know the controls and how to stop the machine quickly.
4. Do not allow children under 14 years old to operate vehicle. Children 14 years and over should only operate unit under close parental supervision. Do not allow anyone to operate it without proper instruction. Only persons well acquainted with these rules of safe operation should be allowed to use your mower.
5. Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts. Do not wear loose fitting clothes or jewelry. They can be caught in moving parts. Never operate a unit in bare feet, sandals, or sneakers.
6. To prevent injury, do not carry passengers or give rides. Keep children, pets and bystanders out of the area while mowing. Only the operator should ride on the unit and only ride in the seat.
7. Check overhead clearance carefully before driving under power lines, guy wires, bridges or low hanging tree branches, before entering or leaving buildings, or in any other situation where the operator may be struck or pulled from the unit, which could result in serious injury.
8. To maintain control of the unit and reduce the possibility of upset or collision, operate the tractor smoothly. Avoid erratic operation and excessive speed.
9. Thoroughly inspect the area to be mowed. Remove all stones, sticks, wire, bones and other foreign objects. Keep the area of operation clear of all persons, particularly small children and pets. Stop engine when they are in the vicinity of your mower. Although the area of operation should be completely cleared of foreign objects, a small object may have been overlooked and could be accidentally thrown by the mower in any direction and cause injury to you or a bystander. Plan your mowing pattern to avoid discharge of material toward roads, sidewalks, bystanders, pets and the like.
10. Always wear safety glasses or eye shields during operation or while performing an adjustment or repair, to protect eyes from foreign objects that may be thrown from the machine in any direction.
11. Stop the blade(s) when crossing gravel drives, walks or roads.
12. Disengage all attachment clutches, thoroughly depress the brake pedal, and shift into neutral before attempting to start engine.
13. Before leaving the operator's position, disengage blade(s), place shift lever in neutral, engage parking brake, shut engine off and remove key.
14. Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times as the rotating blade(s) can cause injury.
15. Disengage power to attachment(s) and stop engine before making any repairs or adjustments. Disconnect the spark plug wire and keep the wire away from the plug to prevent accidental starting.
16. Before attempting to unclog the mower or discharge chute, stop the engine. The mower blade(s) may continue to rotate for a few seconds after the engine is shut off. Therefore, be sure the blade(s) have stopped completely. Disconnect the spark plug wire and keep the wire away from the plug to prevent accidental starting.
17. Disengage power to attachment(s) when transporting or not in use.
18. For your safety, use the slope gauge included as part of this manual to measure slopes before operating this unit on a sloped or hilly area. If the slope is greater than 15° as shown on the slope gauge, do not operate this unit on that area or serious injury could result.
19. Do not stop or start suddenly when going uphill or downhill. Mow up and down face of steep slopes; never across the face. Use extreme caution if it is necessary to drive the tractor up an incline or back the tractor down an incline because the front of the tractor could lift and rapidly flip over backward which could cause serious injury.
20. Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Always keep the tractor in low gear when going down steep hills to take advantage of engine braking action. Choose a low enough gear so that you will not have to stop or shift while on the slope.
21. Stay alert for holes in terrain and other hidden hazards which may cause the unit to tip over.
22. Use care when pulling loads or using heavy equipment.
 - A. Use only approved drawbar hitch points.
 - B. Limit loads to those you can safely control.
 - C. Do not turn sharply. Use care when backing.
 - D. Use counterweight(s) or wheel weights when suggested in owner's manual.
23. Watch out for traffic when crossing or near roadways.
24. When using any attachments, never direct discharge of material toward bystanders nor allow anyone near vehicle while in operation.
25. Handle gasoline with care. It is highly flammable.
 - A. Extinguish cigarettes, cigars, pipes and all other sources of ignition.
 - B. Use approved gasoline container.
 - C. Never remove cap or add gasoline to a running or hot engine or fill fuel tank indoors. Allow to cool at least 2 minutes before refilling. Wipe up spilled gasoline. Always use original type vented cap.
 - D. Open doors if engine is run in garage. Exhaust fumes are dangerous. Do not run engine indoors.
26. Never store the machine with fuel in the fuel tank inside a building where fumes may reach an open flame or spark, such as hot water and space heaters, clothes dryers, and the like. Allow the engine to cool before storing in any enclosure.
27. To reduce fire hazard, keep engine and cutting deck free of grass, leaves or excessive grease or oil.
28. Keep the vehicle and attachments in good operating condition, and keep safety devices in place. Use guards as instructed in operator's manual. Do not operate this unit unless the chute deflector, guards, and safety interlock system are installed and functioning properly.
29. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
30. The vehicle and attachments should be stopped and inspected for damage after striking a foreign object. The damage should be repaired before restarting and operating the equipment.
31. Do not change the engine governor settings or overspeed the engine.

RULES FOR SAFE OPERATION (CONTINUED)

32. When using the vehicle with mower, proceed as follows:
 - A. Mow only in daylight or in good artificial light.
 - B. Never make a cutting height adjustment while engine is running if operator must dismount to do so.
 - C. Shut the engine off and wait until the blade comes to a complete stop before removing the grass catcher.
 - D. Check blade mounting bolts for proper tightness at frequent intervals. Also, check blades for wear or damage (e.g. bent, cracked). Replace with blade which meets original equipment specifications.
33. Check grass catcher bags frequently for wear or deterioration. For safety protection, replace only with new bag meeting original equipment specifications.

34. Look behind to make sure the area is clear before placing the transmission in reverse and continue looking behind while backing up. Disengage blades before shifting into reverse and backing up.
35. This unit should not be driven up a ramp onto a trailer or truck under power, because the unit could tip over, causing serious personal injury. The unit must be pushed manually to load properly.
36. Check brake operation frequently. Adjust and service according to brake adjustment instructions in this manual.
37. Muffler, engine, and belt guards become hot during operation and can cause a burn. Allow to cool down before touching.

ASSEMBLY

This owner's manual covers two models of lawn tractors. Follow only those instructions which pertain to your model lawn tractor.

Refer to the separate deck manual for all information concerning the deck.

IMPORTANT: This unit is shipped **WITHOUT GASOLINE or OIL**; however, a small amount of oil may be present from the factory. Do not overfill. After assembly, service engine with gasoline and oil as instructed in the separate engine manual packed with your unit.

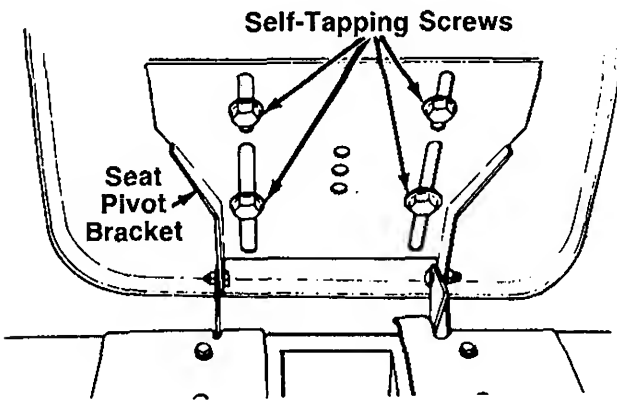


FIGURE 1.



WARNING

- A. Battery acid must be handled with great care as contact with it can burn and blister the skin. It is also advisable to wear protective clothing (goggles, rubber gloves and apron) when working with it.*
- B. Should battery acid accidentally splatter into the eyes or onto the face, rinse the affected area immediately with clean cold water. If there is any further discomfort, seek prompt medical attention.
- C. If acid spills on clothing, first dilute it with clean water, then neutralize with a solution of ammonia/water or baking soda/water.

NOTE: Reference to right or left hand side of the unit is observed from the driver's seat, facing forward.

UNPACKING

1. Remove the lawn tractor from the carton as follows. Open the top flaps. The loose parts (includes the battery fluid, steering wheel with steering cap attached and chute deflector) may be on the seat and wrapped in plastic, or may be located in a box. Remove all loose parts and carton inserts. Cut the front corners of the carton. Make certain brake is released, use the relief valve and push the unit out of the carton.
2. The seat has been mounted backward for shipping purposes. If the loose parts are on the seat, carefully cut and remove the plastic wrap.

NOTE: On some units, the seat may be packed with the loose parts. The self-tapping screws will be attached to the seat. Remove the screws and assemble as instructed.

ASSEMBLING THE SEAT

Remove the hex self-tapping screws which secure the seat to the seat pivot bracket. Turn the seat around and place in position against the seat pivot bracket, lining up the slotted holes in the pivot bracket with the holes in the seat. Select desired position for the seat, and secure with hex self-tapping screws. See figure 1.

BATTERY INFORMATION

- D. Since battery acid is corrosive, do not pour it into any sink or drain. Before discarding empty electrolyte containers, rinse them with a neutralizing solution.
- E. **NEVER** connect or disconnect charger clips to battery while charger is turned on as it can cause sparks.
- F. Keep all lighted materials (cigarettes, matches, lighters) away from the battery as the hydrogen gas generated during charging can be combustible.
- G. As a further precaution, only charge the battery in a well-ventilated area.

***Always shield eyes, protect skin and clothing when working near batteries.**

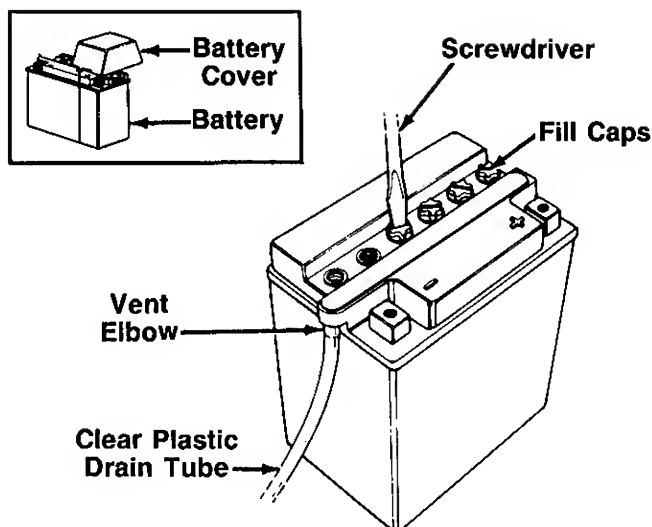


FIGURE 2.

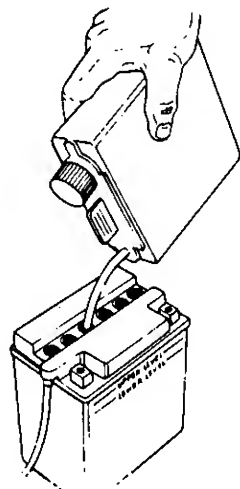


FIGURE 3.



DANGER

Battery contains sulfuric acid. Refer to warning on page 3. Antidote: EXTERNAL—Flush with water. INTERNAL—Drink large quantities of water or milk. Follow with milk of magnesia, beaten eggs or vegetable oil. Call physician immediately. EYES: Flush with cool water for at least 15 minutes, then get prompt medical attention.

Since batteries produce explosive gases, keep all lighted materials (cigarettes, lighters, matches, etc.) away. Be sure to charge battery only in well-ventilated areas. Make certain venting path of battery (drain tube) is always open.

**KEEP BATTERIES
OUT OF THE REACH OF CHILDREN!**

ACTIVATING THE BATTERY

Do not activate battery (fill with battery acid) until battery is actually placed in service. Be certain to read previous warnings before activating the battery.

NOTE: Some units may have the battery and battery hardware packed with the battery fluid.

1. Lift the seat. Remove the battery cover by pressing in on the sides and lifting up. See figure 2 inset. Remove the battery from the rear frame.
2. Open the battery pack. Be careful not to puncture the box. It contains the battery fluid (acid) in a plastic container and one short plastic tube.
3. Place the battery on a table or workbench. Make certain the long plastic drain tube is in place on the vent elbow.
4. Remove the six fill caps from the top of the battery with a screwdriver. Be careful not to damage the fill caps. See figure 2.
5. Place the battery fluid container on the table or workbench. Carefully cut off tip of the spout and attach the short plastic tube provided. Do not squeeze the container when cutting tip.
6. Fill each battery cell slowly and carefully to the **UPPER LEVEL** line marked on battery. See figure 3. Use caution as the acid level will rise rapidly after the bottom of the cell is filled.
7. Allow battery to stand for 30 minutes with the fill caps removed, while the plates absorb acid.
8. If acid level has fallen after the 30 minute standing period, refill each cell with battery acid to the **UPPER LEVEL** line on battery. Replace the fill caps.
9. Before discarding the empty container, neutralize any residue with baking soda and rinse container with water. Puncture container several times before discarding.
10. **Charge the battery** after the 30 minute standing period. **SLOW CHARGE THE BATTERY (DO NOT FAST CHARGE).**

Model 754F: Charge the battery at a maximum bench rate of 1.4 amperes until the specific gravity reading is 1.260-1.280. Charge for a minimum of 2 hours and a maximum of 8 hours.

Model 784G: Charge the battery at a maximum bench rate of 2 amperes until the specific gravity reading is 1.265. Charge for a minimum of 3 hours and a maximum of 5 hours.

NOTE: This engine is equipped with an alternator. The current for the battery charger alternator is unregulated. During normal operation, it is only necessary to charge the battery:

1. When it is activated for the first time.
2. Before winter storage.
3. Before using the lawn tractor after winter storage.

NOTE—Model 754F: Charging rate after battery has been put into operation—the battery is to be charged for a period of 14-16 hours. **NO LONGER THAN 30 HOURS.**

After battery has been charged, add only distilled water. Do not add acid.

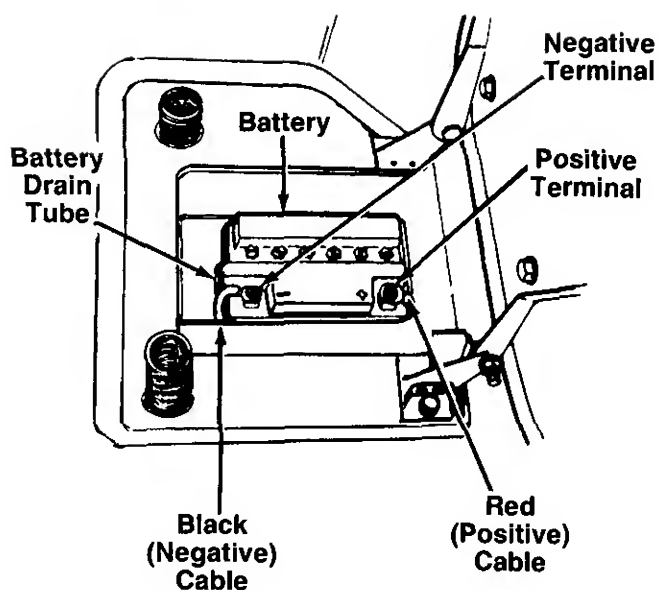


FIGURE 4.

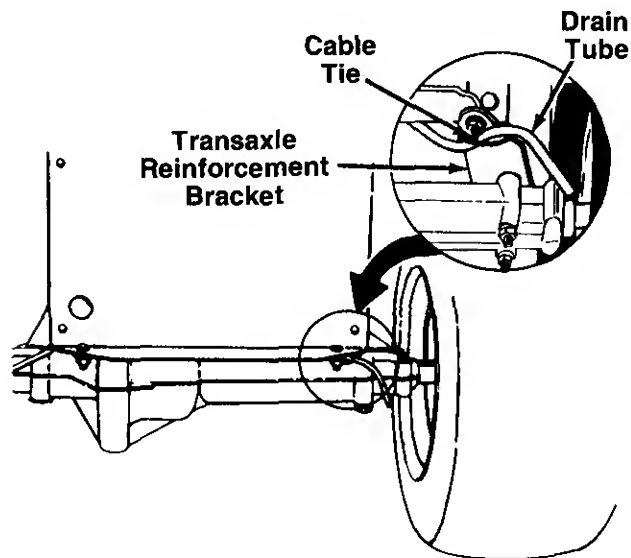


FIGURE 5.

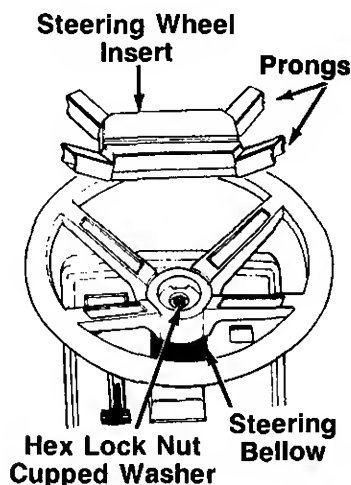


FIGURE 6A.—Model 754F

INSTALLING THE BATTERY

1. Raise the seat.
2. Make certain the positive cable (heavy red wire) and negative cable (heavy black wire) are routed outside the battery opening.
3. Place the battery inside the opening so that the positive terminal is toward the front of the unit. See figure 3. Route the battery drain tube down beside the battery.
4. Remove the hex bolt from the positive (+) terminal. Place the positive cable on the positive terminal. See figure 4. Secure with hex bolt. Be careful not to lose the nut inside the terminal.
5. Secure the negative cable to the negative (–) terminal in the same manner. Replace the battery cover over the positive terminal. Lower the seat.

6. Insert the drain tube through the cable tie which is attached to the transaxle reinforcement bracket on the right side of the unit. Be certain drain tube is routed away from the wheel rim. Pull on end of cable tie to tighten (do not collapse drain tube). Trim excess end of cable tie.

ATTACHING THE CHUTE DEFLECTOR

Attach the chute deflector to the deck, following the instructions in the separate deck manual packed with your unit.



WARNING: Do not operate your unit unless the chute deflector has been properly installed.

ATTACHING THE STEERING WHEEL

Model 754F Only:

1. Remove the hex lock nut and cupped washer from the steering shaft, and remove the steering bellow. Pry the steering insert off the center of the steering wheel.
2. Attach one end of steering bellow to the steering wheel as shown in figure 6A, inset.
3. Position the front wheels of the tractor so they are pointing straight forward.
4. Place the steering wheel and steering bellow over the steering shaft, positioning steering wheel as desired.
5. Place the washer with the cupped side down over the steering shaft. Secure with hex lock nut. See figure 6A.
6. Snap the steering wheel insert over the four spokes of the steering wheel.

Model 784G Only:

Model 784G is equipped with indicator lights, located in the steering wheel. The steering wheel must be assembled as follows for proper operation of the indicator lights.

1. Remove the hex lock nut and cupped washer from the steering shaft, and remove the steering bellow. Pry the steering wheel insert off the center of the steering wheel.
2. The opening in the steering bellow is wider at one end than the other. Route the five indicator wires up through the **smaller** end of the steering bellow. Slide steering bellow over steering shaft. Insert the five indicator wires up through the slot in the steering wheel as shown.
3. Position the front wheels of the tractor so they are pointing straight forward. Place the steering wheel over the steering shaft so the wires are at the bot-

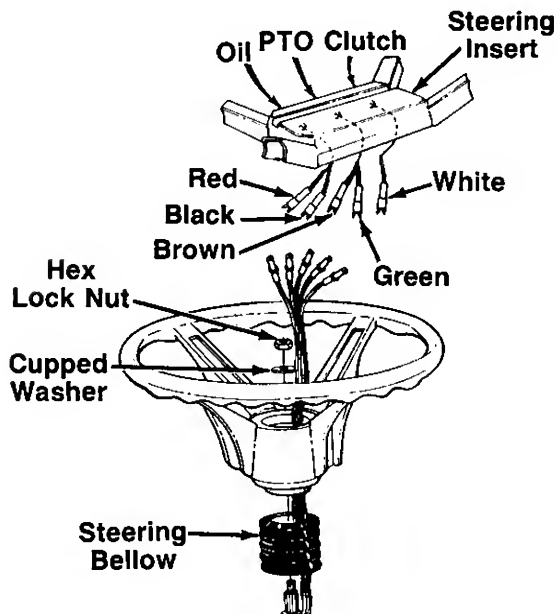


FIGURE 6B.—Model 784G

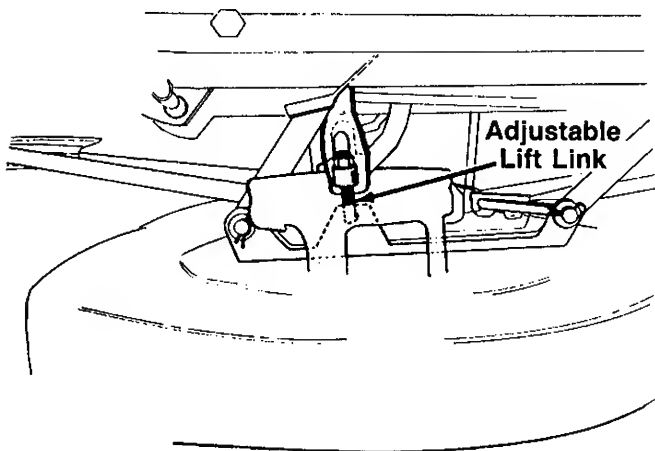


FIGURE 7.

tom of the steering wheel (6 o'clock position). Secure with the cupped washer (cupped side down) and hex lock nut removed in step 1.

4. Place the indicator wires through the cable tie located underneath the steering wheel insert. Connect the wires to the same color wire leads in the steering wheel insert. Tighten the cable tie to hold the wires securely in position.
5. Snap the steering wheel insert over the four spokes of the steering wheel, making sure the indicator lights are positioned at the bottom of the steering insert (toward the operator).

IMPORTANT: Be certain to follow step six exactly to prevent damage to the indicator lights and wire harness when using the lawn tractor.

6. Position the cable tie and secure the wire harness as follows.
 - a. Raise the hood of the tractor, and pull excess wire down through the dash panel.
 - b. Partially tighten the cable tie under the dash panel so the cable tie is snug, but can still slide up and down the wire harness. Slide the cable tie up until it is against the dash panel.
 - c. Turn the steering wheel fully in both directions (wires will be pulled up into the steering bellow), then return the steering wheel to the center. Carefully pull the wires down from the dash panel, and move cable tie down the wires 1/4 inch.
 - d. Tighten the cable tie securely. Trim end of cable tie so **at least** one inch of the cable tie remains.
7. Pull bellow up against the bottom of the steering wheel.

TIRE PRESSURE

The tires on your unit may be over-inflated for shipping purposes. Reduce the tire pressure before operating the unit. Recommended operating tire pressure is approximately 12 p.s.i. (check sidewall of tire for tire manufacturer's recommended pressure).



WARNING: Maximum tire pressure under any circumstances is 30 p.s.i. Equal tire pressure should be maintained on all tires.

LEVELING THE DECK

With unit on hard, level surface, measure the distance from the bottom edge of the center of the left side of deck to the ground. Measure the same distance on the center of the right side of the deck (just behind the chute area on side discharge units). Or, place the blades in a straight line, and measure the distance from the outside edge of the blade tips to the ground.

Adjust the lift link on the left side of the deck as necessary. See figure 7. Recheck the adjustment.

CONTROLS

IGNITION SWITCH

The ignition switch is located on the dashboard. Turn the key to the START position to start the engine. When the engine is running, leave the key in the ON position. To stop the engine, turn the key to the OFF position. See figure 8.



WARNING: Remove the key from the tractor when the tractor is not in use to prevent accidental starting.

THROTTLE CONTROL

The throttle control is located on the left side of the dashboard and is used to regulate the engine speed. See figure 8. The engine should be operated at full throttle (FAST) when operating the mower.

CHOKE CONTROL

The choke control is located on the right side of the dashboard and is operated manually. Details for the choke operation are covered in the separate engine manual packed with your unit. See figure 8.

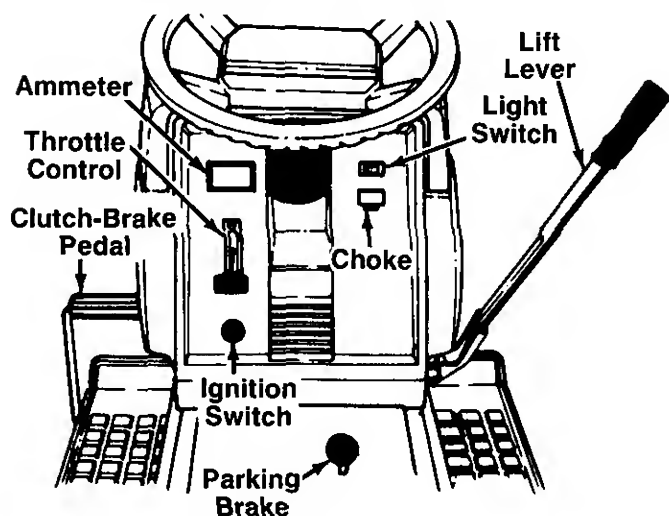


FIGURE 8A.—Model 754F

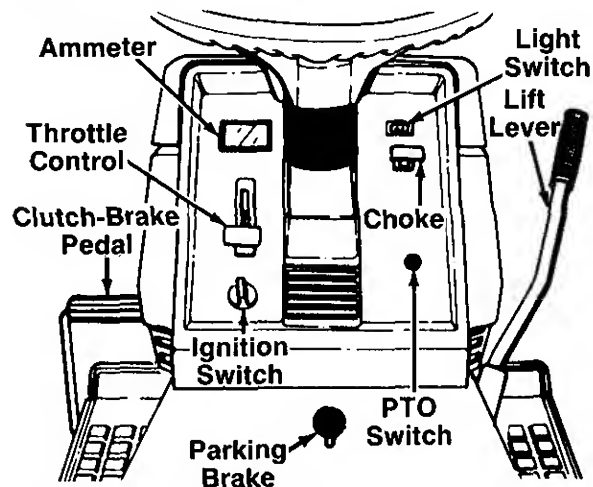


FIGURE 8B.—Model 784F

LIGHT SWITCH

The head lamps are operated by pushing the light switch located on the dashboard. The head lamps will only operate when the engine is running. See figure 8.

AMMETER

The ammeter registers the rate of battery charge or discharge. The ammeter will register on the discharging side with starting the engine. It should register on the opposite side (charging) when the engine is running in the fast position until the battery is completely charged. With a fully charged battery or with the engine idling, the ammeter will not show a charge. See figure 8.

CLUTCH-BRAKE PEDAL

The clutch-brake pedal is located on the left side of the tractor. See figure 8. Depressing the clutch-brake pedal partway disengages the clutch. Pressing the pedal all the way down disengages the clutch and engages the disc brake.

NOTE: The clutch-brake pedal must be depressed to start the engine.

SHIFT LEVER

The shift lever is located on the right fender and has three positions, FORWARD, NEUTRAL and REVERSE. See figure 9. The clutch-brake pedal must be depressed and the lawn tractor must not be moving when shifting gears. Do not force the shift lever. Release the clutch-brake pedal slightly to line up the shifting collar in the transmission. Then try to shift gears.

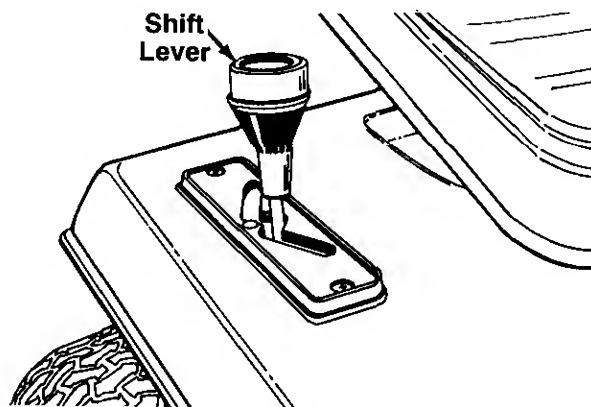


FIGURE 9.

PARKING BRAKE

To set the parking brake, depress the clutch-brake pedal, pull up the parking brake knob and release the clutch-brake pedal. It will stay in the raised position. To release the parking brake, depress and release the clutch-brake pedal. See figure 8.

NOTE: The parking brake must be set if the operator leaves the seat with the engine running.

SPEED CONTROL LEVER

The speed control lever is located on the left fender. It allows you to regulate the ground speed of the lawn tractor. See figure 10. To select the ground speed, depress clutch pedal. Push speed control lever outward and move backward to slow lawn tractor, move forward to increase speed. When desired speed has been obtained, release lever in that position. Whenever clutch is engaged, unit will automatically go to the pre-set speed.

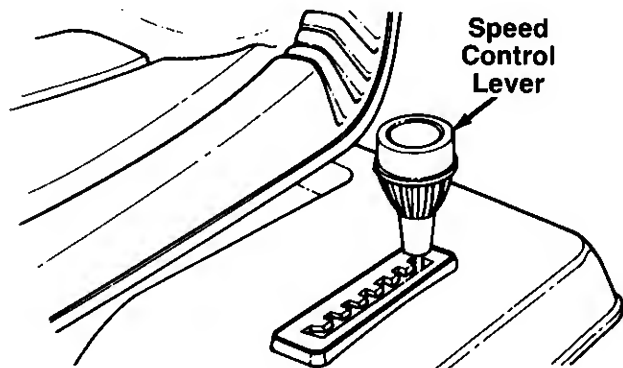


FIGURE 10.

INDICATOR LIGHTS (Model 784G Only)

Three indicator lights are located in the steering wheel. If a light illuminates when attempting to start the unit, proceed as follows.

CLUTCH—Depress the clutch pedal.

PTO—Place PTO switch in the OFF position.

OIL—Check the crankcase oil level, and add oil as required.

POWER TAKE-OFF (PTO) SWITCH (Model 784G Only)

The PTO switch is located on the right side of the dashboard. See figure 11. The PTO switch must be in the OFF position (down) when starting the engine, when shifting into reverse and if the operator leaves the seat.

To engage the PTO switch, pull knob out and lift up to ON position, then release. The knob will return to RUN position. See figure 11.

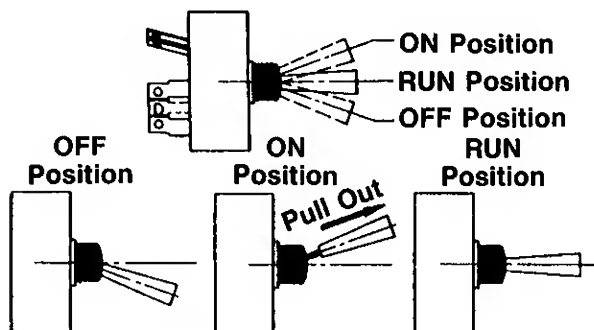


FIGURE 11.—Model 784G Only

NOTE: The PTO switch **must** be in OFF position when starting the engine, when shifting into reverse and if the operator leaves the seat.

CUTTING CONTROLS

A. LIFT LEVER

Model 754F:

The lift lever is used to raise and lower the cutting deck and to engage and disengage the blades. Pulling it all the way back and locking it disengages the blades.

NOTE: The lift lever **must** be in the disengaged position when starting the engine, when shifting into reverse and if the operator leaves the seat. See figure 12.

Model 784G:

The lift lever is located on the right side of the lawn tractor. It is used to raise and lower the cutting deck (which sets the cutting height) and other attachments. Move the lift lever outward, select the desired cutting height and release the lever. See figure 12.



WARNING: The blade does not shut off when the deck is raised. You must place the PTO switch in the OFF position.

B. DECK LIFT INDICATOR

The deck lift indicator marks the position being used for the lift lever. Select the lift lever position desired, press the indicator lever outward, move it to the position immediately below the lift lever and release the indicator lever. See figure 12.

C. SETTING THE CUTTING HEIGHT

1. Select the position for the lift lever which gives the desired cutting height. Move the deck lift indicator so that the lift lever can be returned to the same position after it is raised.
2. Move the deck wheels to the hole location so the wheels are $\frac{1}{4}$ to $\frac{1}{2}$ inch above the ground.

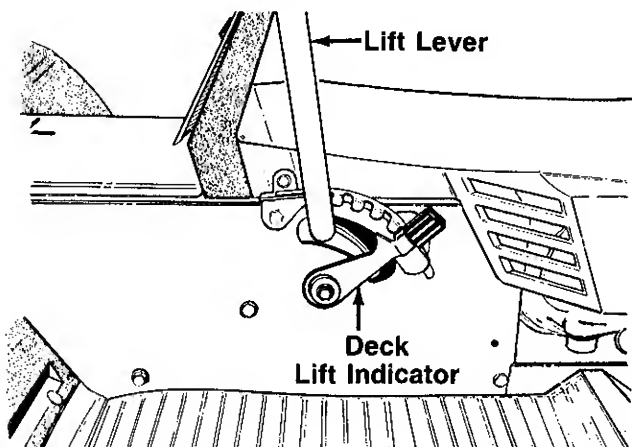


FIGURE 12.

OPERATION

CAUTION

- READ OPERATOR'S MANUAL(S) • NEVER CARRY CHILDREN
- KNOW LOCATION AND FUNCTION OF ALL CONTROLS
- KEEP SAFETY DEVICES (GUARDS, SHIELDS AND SWITCHES) IN PLACE AND WORKING
- REMOVE OBJECTS THAT COULD BE THROWN BY BLADE(S)
- DO NOT OPERATE THE UNIT WHEN CHILDREN AND OTHERS ARE AROUND
- ALWAYS LOOK BEHIND THE UNIT BEFORE BACKING UP
- DO NOT OPERATE THE UNIT WHERE IT COULD SLIP OR TIP
- IF THE UNIT STOPS GOING UPHILL, STOP BLADE(S) AND BACK SLOWLY DOWNHILL
- BE SURE BLADE(S) AND ENGINE ARE STOPPED BEFORE PLACING HANDS OR FEET NEAR BLADE(S)
- BEFORE LEAVING OPERATOR'S POSITION, DISENGAGE THE BLADE(S), PLACE THE SHIFT LEVER IN NEUTRAL, ENGAGE THE PARKING BRAKE, SHUT ENGINE OFF AND REMOVE THE KEY.

GAS AND OIL FILL-UP

Service the engine with gasoline and oil as instructed in the separate engine manual packed with your tractor. Read instructions carefully.

NOTE: Your tractor is shipped without oil; however, a small amount of oil may be present from the factory. Do not overfill.



WARNING: Never fill fuel tank indoors, with engine running or while engine is hot.

STARTING THE ENGINE

IMPORTANT: This unit is equipped with a **safety interlock system** for your protection. The purpose of the safety interlock system is to prevent the engine from cranking or starting unless the clutch-brake pedal is depressed and the lift lever is in the disengaged position (Model 754F) or the PTO switch is in the OFF position (Model 784G). In addition, the lift lever must be in the disengaged position (Model 754F) or the PTO switch must be in the OFF position (Model 784G), when the unit is put into reverse or the engine will shut off. If the operator leaves the seat with the lift lever engaged (Model 754F) or the PTO switch engaged (Model 784G), and/or without setting the parking brake, the engine will shut off.



WARNING: Do not operate the tractor if the interlock system is malfunctioning because it is a safety device, designed for protection.

1. **Model 754F:** Place the lift lever in the DIS-ENGAGED position.

Model 784G: Place the PTO switch in the OFF position.

2. Depress the clutch-brake pedal and set the parking brake.
3. Place the shift lever in the NEUTRAL position.
4. Set the throttle control in the FAST position.
5. Pull out the choke control (a warm engine may not require choking).
6. Turn the ignition key to the right to the START position. After the engine starts, release the key. It will return to the ON position.

NOTE: Protect the starter life by using short starting cycles of several seconds. Cranking more than 15 seconds per minute can damage the starter motor.

7. Push choke knob in gradually. Move the throttle control to desired engine speed.

STOPPING THE ENGINE

Turn the ignition key to the left to the OFF position. Remove the key to prevent accidental starting.

IMPORTANT: If you strike a foreign object, stop the engine. Remove wire from spark plug, thoroughly inspect the unit for any damage, and repair the damage before restarting and operating the mower.

NOTE: If any problems are encountered, refer to the Trouble Shooting Chart on page 19.

OPERATING THE LAWN TRACTOR



WARNING: Before operating your four wheel steer lawn tractor, be certain to read the next section, "Steering the Lawn Tractor." Operate your tractor in an open area when operating for the first time.

1. Set the desired cutting height.
2. Start the engine as instructed previously.
3. Move throttle control to full throttle to prevent strain on the engine and to operate attachments.
4. Place the shift lever in either the FORWARD or REVERSE position. Place the speed control lever in desired position. Use first speed position when operating the tractor for the first time.



WARNING: Look to the rear before backing up.

5. Release the parking brake by depressing the clutch-brake pedal. Release clutch-brake pedal slowly to put unit into motion.
6. The lawn tractor is brought to a stop by depressing the clutch-brake pedal.

NOTE: When operating the unit initially, there will be little difference between the highest two speeds until after the belts have seated themselves into the pulleys during the break-in period.

Be sure that the lawn is clear of stones, sticks, wire, or other objects which could damage tractor or engine. For best results and to insure more even grass distribution, do not mow when lawn is excessively wet.



WARNING: Before leaving the operator's position for any reason, disengage the blades, place the shift lever in neutral, engage the parking brake, shut engine off and remove the key.

When stopping the unit to empty a grass bag, etc., follow the instructions above. This procedure will also eliminate "browning" the grass, which is caused by hot exhaust gases from a running engine.

If unit stalls with speed control in high speed, or if unit will not operate with speed control lever in a low speed position, proceed as follows.

1. Place shift lever in NEUTRAL.
2. Restart engine.
3. Place speed control lever in HIGH speed position.
4. Release clutch-brake pedal fully.
5. Depress clutch-brake pedal.
6. Place speed control lever in desired position.
7. Place shift lever in either FORWARD or REVERSE, and follow normal operating procedures.

STEERING THE LAWN TRACTOR

Your four wheel steering lawn tractor is designed for optimum maneuverability. It is important to understand how it operates before using the lawn tractor.

If the wheels are pointing straight forward and the steering wheel is turned less than approximately 45°, only the front wheels turn. See figure 13A. When the steering wheel is turned sharply (more than approximately 45°), the rear wheels also turn, but in the opposite direction as the front wheels to provide a very small turning radius. See figure 13B.

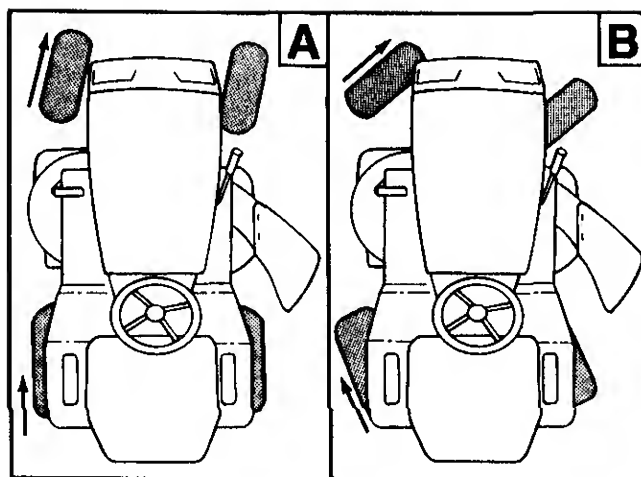
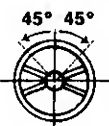


FIGURE 13.

The important point is this: When operating the lawn tractor beside a wall or fence, against or on top of a curb, driving around an object, or in any other similar situation, turn the steering wheel gradually to pull away from the object or curb so the rear of the tractor does not swing out and hit the object or go over the curb.



WARNING: If operating this lawn tractor near a drop-off in the ground, do not make a sharp turn. The rear wheel turns outward (see figure 13B) and could lose ground contact, which could cause the vehicle to tip over.

OPERATING THE CUTTING BLADES

The cutting blades may be engaged while the lawn tractor is moving or standing still. DO NOT engage the cutting blades abruptly as the sudden belt tension on the pulley may cause the engine to stall.



WARNING: Keep feet and hands away from the discharge opening, the blades or any part of the deck. When the unit is used for other than mowing operations, the blade drive should be disengaged.

Move the lift lever into the DISENGAGED position to raise the deck and disengage the blades.

GRASS COLLECTOR AVAILABLE

Grass Collector Model 190063 is available as optional equipment.



WARNING: The mower should not be operated without the entire grass catcher or chute deflector in place.

NOTE: Under normal usage bag material is subject to wear, and should be checked periodically. Be sure any replacement bag complies with the mower manufacturer's recommendations. For replacement bags, use only factory authorized replacement bag.

ADJUSTMENTS

SEAT ADJUSTMENT

The seat may be adjusted to different positions. Refer to "Attaching the Seat" in assembly instructions.

DECK LEVELING ADJUSTMENT

If an uneven cut is obtained, the deck may be leveled by following instructions at end of assembly section.

CUTTING DECK ENGAGEMENT ADJUSTMENT

The cutting deck engagement may be adjusted to make certain deck is disengaged when lift lever is in the disengaged position, or to obtain more drive in the cutting positions. Correct adjustment as follows.

With the engine off, place the lift lever in the highest cutting position (first position). Remove the cotter pin and flat washer which secure the disengagement rod to the stabilizer shaft assembly. See figure 14. Shorten the rod by threading it in until the ferrule is against the back of the slot in the lift shaft assembly, and the rod lines up with the hole in the stabilizer shaft. For more belt tension the disengagement rod must be lengthened. To decrease belt tension the disengagement rod must be shortened.

Check the adjustment by placing the lift lever in the disengaged position. The deck should move up and forward, allowing the belt to become loose. Start and test for disengagement. Repeat procedure as necessary.

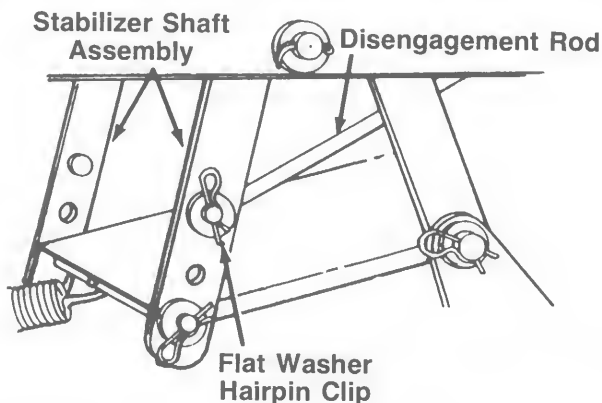


FIGURE 14.—38" Deck Shown
SPEED CONTROL ADJUSTMENT

NOTE: When operating the unit initially or after replacing the belts, there will be little difference between the highest two speeds until after the belts have gone through a break-in period and have seated themselves into the pulleys.

To adjust the speed control, proceed as follows.

1. Start the engine.
2. Place the shift lever in Neutral position.
3. Place the speed control lever in high speed position.

4. Release the clutch-brake pedal completely, then slowly depress the pedal all the way (belt will be all the way to the outside of the bottom pulley). Hold the pedal in this position.
5. Turn the engine off.
6. After engine stops completely, release the clutch-brake pedal.
7. Unscrew the parking brake knob. Remove the transmission cover by removing two truss head screws.
8. Disconnect the speed selector rod from the variable speed pulley by removing the cotter pin and flat washer and lifting rod off the 3/8" pin. See figure 15.

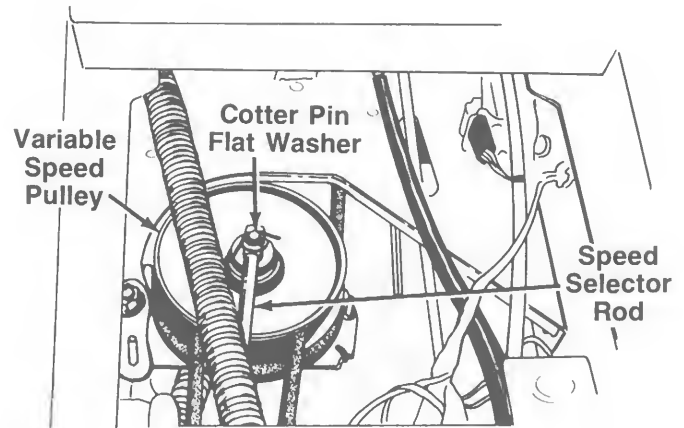


FIGURE 15.

9. Disconnect the speed control link from the variable speed torque bracket by removing the cotter pin and flat washer. See figure 16.

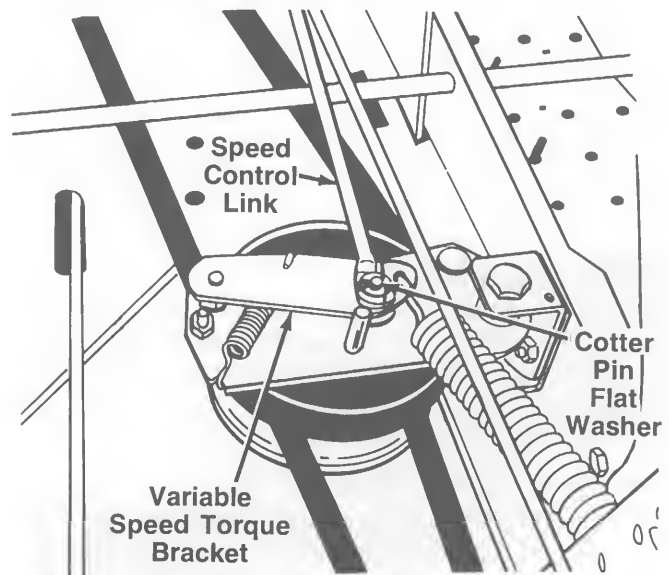


FIGURE 16.—Viewed From Beneath Tractor

10. Place speed control lever in first speed position. Adjust speed selector rod as follows.
 - a. Push rod toward the rear of the tractor, against the end of the slot in the speed control lever assembly.
 - b. Turn rod into or out of the ferrule until it fits freely over the 3/8" pin on the variable speed pulley (turn clockwise to shorten rod, counterclockwise to lengthen rod).
 - c. After rod is adjusted to fit over pin, then turn rod **four (4) full turns counterclockwise**. Move speed control lever to second position. Attach rod to pin on variable speed torque bracket, using the flat washer and cotter pin.
11. Adjust the brake by removing the cotter pin. Tighten the nut by hand until the brake lever locks against the bracket on the transaxle. See figure 17.

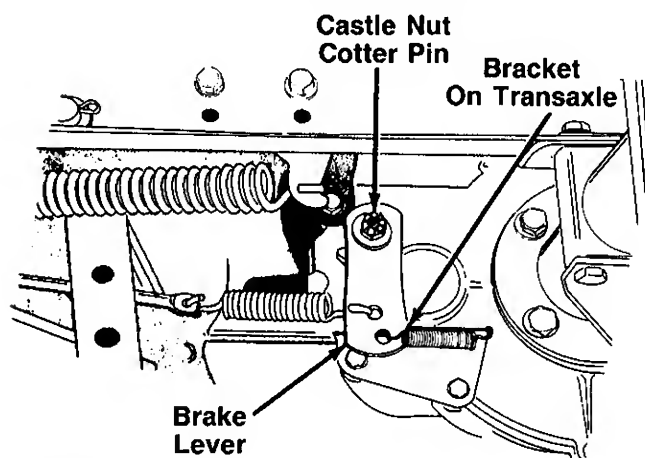


FIGURE 17.

12. Push clutch-brake pedal forward until resistance is felt. Adjust the speed control link in or out until it fits over the pin on the torque bracket. Then shorten **two full turns**. Secure to pin on torque bracket using flat washer and cotter pin.
13. Back the castle nut on the brake off 1 or 2 notches, till the hole in the brake mounting pin aligns with a slot in the castle nut. Secure with cotter pin.

WHEEL ADJUSTMENT

The caster (forward slant of the king pin) and the camber (tilt of the wheels out at the top) require no adjustment. Automotive steering principles have been used to determine the caster and camber on the tractor. The front wheels should toe-in 1/8 inch.

To adjust the toe-in, follow these steps.

1. Remove the hex nut and lock washer, and drop the tie rod end from the axle bracket. See figure 18.
2. Loosen the hex jam nut on tie rod.
3. Adjust the tie rod assembly for correct toe-in.

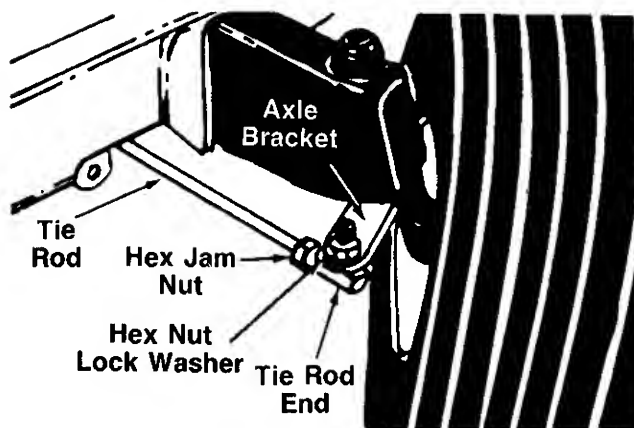


FIGURE 18.

Dimension "B" should be approximately 1/8" less than Dimension "A." See figure 19. To increase Dimension "B," screw tie rod into tie rod end. To decrease Dimension "B," unscrew tie rod from tie rod end. Reassemble tie rod. Check dimensions. Readjust if necessary.

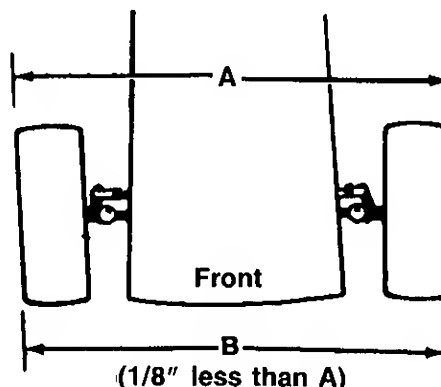


FIGURE 19.

If any further adjustment of the front or rear wheel steering mechanism is needed, the adjustment should be performed by your authorized service dealer.

CARBURETOR ADJUSTMENT



WARNING: If any adjustments are made to the engine while the engine is running (e.g. carburetor), disengage all clutches and blades. Keep clear of all moving parts. Be careful of heated surfaces and muffler.

Minor carburetor adjustment may be required to compensate for differences in fuel, temperature, altitude and load. To adjust the carburetor, refer to the separate engine manual packed with your unit.

NOTE: A dirty air cleaner will cause an engine to run rough. Be certain air cleaner is clean and attached to the carburetor before adjusting carburetor. Refer to the separate engine manual.

BRAKE ADJUSTMENT

During normal operation of this machine, the brake is subject to wear and will require periodic examination and adjustment.



WARNING: Do not have the engine running when you adjust the brake.

If brake adjustment is required, refer to step numbers 11, 12 and 13 of the Speed Control Adjustment section.

LUBRICATION



WARNING: Always stop engine and disconnect spark plug wire before cleaning, lubricating or doing any kind of work on lawn tractor.

FRONT WHEELS

The front wheels are provided with grease fittings. Lubricate front wheels at least once a season with automotive multi-purpose grease.

REAR WHEELS AND U-JOINTS

There are grease fittings provided on the rear wheel bearing housings and U-joints. Lubricate every 25 hours of operation using automotive multi-purpose grease. See figure 20. The rear tie rod ends have service-free inserts. **Do not** oil or grease the ball joints.

NOTE: Figure 20 is shown with rear wheel removed.

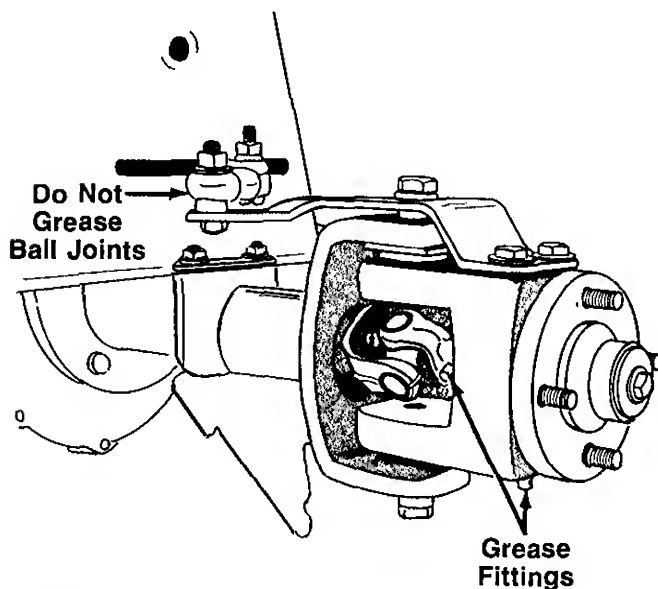


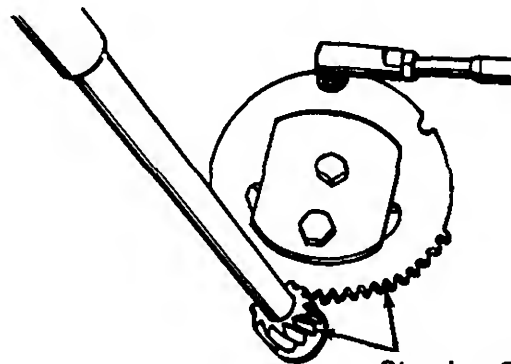
FIGURE 20.

STEERING GEARS

Lubricate teeth of the external steering gears with automotive multi-purpose grease after every 25 hours of operation or once a season. See figure 21.

The steering box assembly has a grease fitting. However, it should not require lubrication. If disassembled for any reason, lubricate with 4 oz. of #251 E.P. grease, part number 737-3007.

The steering shaft should be lubricated with light oil at least once a season.



Steering Gears

FIGURE 21.

TRANSAXLE

The transaxle is lubricated at the factory and does not require checking. If disassembled for any reason, lubricate with 32 oz. of Shell grease, part number 737-0148.

PIVOT POINTS

Lubricate all pivot points with light oil at least once a season.

MAINTENANCE



WARNING: Disconnect the spark plug wire and ground against the engine before performing any repairs or maintenance.

TROUBLE SHOOTING

Refer to page 19 of this manual for trouble shooting information.

ENGINE

Refer to the separate engine manual for engine maintenance instructions.

Service air cleaner every 10 hours under normal conditions. Clean every few hours under extremely dusty conditions. To service the air cleaner, refer to the separate engine manual packed with your unit.

The **spark plug(s)** should be cleaned and the gap reset once a season. Spark plug replacement is recommended at the start of each mowing season; check engine manual for correct plug type and gap specifications.

Maintain **engine oil** as instructed in the separate engine manual packed with your unit. **Read and follow instructions carefully.**

On Model 784G only, the engine is provided with a drain hose for your convenience in draining oil from the crankcase. A clamp secures the drain hose to the side of the engine. See figure 22. To drain the oil, remove the hose from the clamp and remove the drain plug from the end of the hose. Be certain to replace the drain plug and to use the clamp to secure hose to the engine before operating.

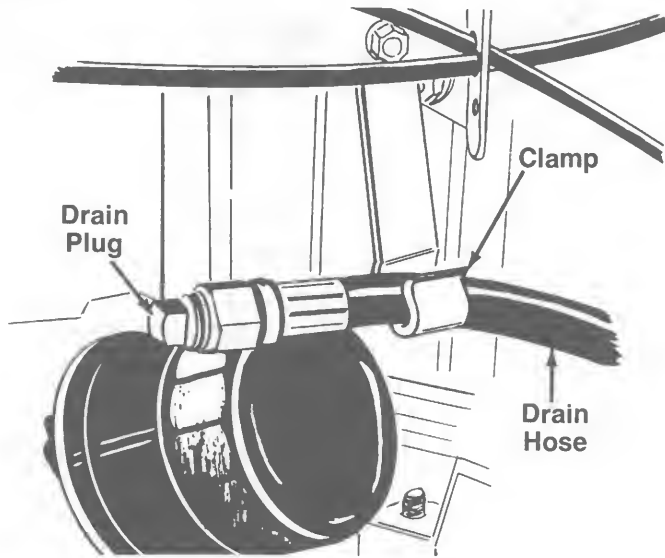


FIGURE 22.—Model 784G Only

CLEANING ENGINE AND DECK

Any fuel or oil spilled on the machine should be wiped off promptly. Grass, leaves, and other dirt must not be left to accumulate around the cooling fins of the engine or on any part of the machine.

Clean the underside of the deck after each mowing.

CUTTING BLADES

A. Removal for Sharpening or Replacement



WARNING: Be sure to disconnect and ground the spark plug wire and remove ignition key before working on the cutting blade to prevent accidental engine starting. Protect hands by using heavy gloves or a rag to grasp the cutting blades.

1. Remove the large bolt and lock washer which holds the blade and adapter to the blade spindle.
2. Remove the blade and adapter from the spindle.
3. If the blade or blade adapter needs replacing, remove the two small bolts, lock washers and nuts which hold the blade to the adapter.

B. Sharpening

Remove the cutting blades by following the directions of the preceding section.

When sharpening the blades, follow the original angle of grind as a guide. It is **extremely important** that each cutting edge receives an equal amount of grinding to prevent an unbalanced blade. An unbalanced blade will cause excessive vibration when rotating at high speeds, may cause damage to the mower and could break, causing personal injury.

The blade can be tested for balance by balancing it on a round shaft screwdriver. Remove metal from the heavy side until it balances evenly.

NOTE: It is recommended that the blade always be removed from the adapter for the best test of balance.

C. Reassembly

Before reassembling the blade and the blade adapter to the unit, lubricate the spindle and the inner surface of the blade adapter with light oil. Lubricating the bolt holes, bolts and inner surface of the nuts with light oil is also recommended. A 4 oz. plastic bottle of light oil lubricant is available. Order part number 737-0170. Engine oil may also be used.

When replacing blades, be sure to install the blade with the side of the blade marked "Bottom" (or with part number) facing the ground when the mower is in the operating position.

Blade Mounting Torque

3/8" Dia. Bolt 375 in. lb. min., 450 in. lb. max.

5/16" Dia. Bolt 150 in. lb. min., 250 in. lb. max.

To insure safe operation of your unit, ALL nuts and bolts must be checked periodically for correct tightness.

ENGINE

Refer to separate engine manual for all engine maintenance procedures.

FUEL FILTER

Your unit is equipped with a replaceable in-line fuel filter. Replace filter whenever contamination or discoloration is noticed. Order replacement filter through your engine authorized service dealer.

BELT REMOVAL AND REPLACEMENT



WARNING: Disconnect the spark plug wire and ground it against the engine. Block the wheels of the unit.

NOTE: Figures 23 through 25 and 27 through 29 are shown with the unit tipped up for clarity. It is not necessary to tip the unit to remove the belts.

However, if tipping the unit is desired, remove the battery from the unit. To prevent gasoline leakage, drain the gasoline, or remove the fuel tank cap, place a thin piece of plastic over the neck of the fuel tank and screw on the cap. Be certain to remove the plastic when finished changing the belts. Block unit securely.

REAR DRIVE BELT

1. Unscrew the parking brake knob. Remove the two truss head screws which secure the transmission cover. Remove transmission cover.
2. Disconnect the speed selector rod from the variable speed pulley by removing the cotter pin and flat washer and lifting rod off the 3/8" pin. Refer to figure 15.
3. Push the idler pulley toward the right side of the unit. Lift the belt over the idler pulley.
4. Remove the belt from the variable speed pulley and transmission pulley.
5. Replace belt, and reassemble in reverse order.
6. Adjust the speed control as instructed in adjustment section.

FRONT DRIVE BELT

Model 754F:

1. To remove the front drive belt, first remove the rear drive belt from the idler pulley and variable speed pulley.
2. Place the lift lever in the disengaged position.
3. Remove the hex bolts (belt keepers) from the engine pulley belt guard. See figure 23.

NOTE: When reassembling, make certain hex bolts are assembled in the same locations from which they were removed. See figure 23.

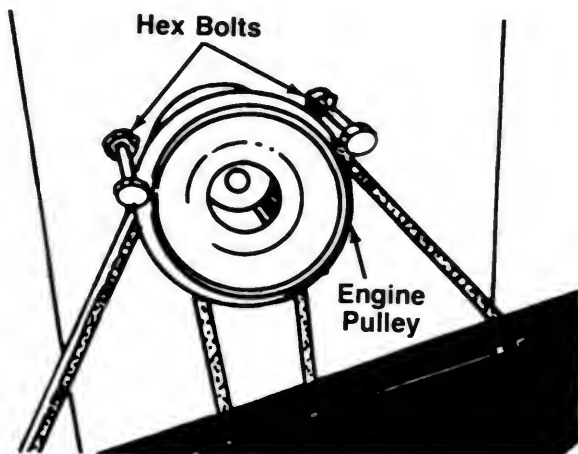


FIGURE 23.—Model 754F

4. Unhook the deck belt from the engine pulley.
5. Remove the two self-tapping screws on each side of the frame which hold the engine pulley belt guard to the frame. See figure 24. Remove the engine pulley belt guard by slipping it forward and down.

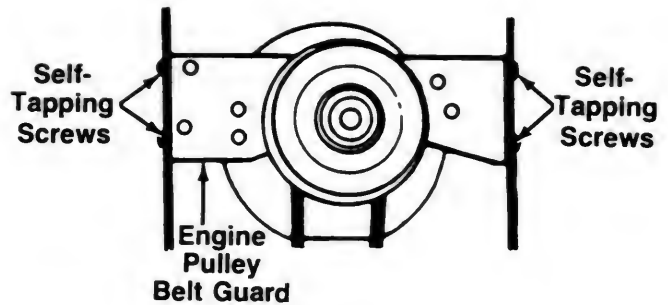


FIGURE 24.—Model 754F

6. Place the clutch-brake pedal in park position.
7. Push forward on the variable speed pulley, and lift the belt off the engine and remove the belt from the engine pulley.
8. Release the clutch-brake pedal. Using the pedal to move the variable speed pulley as necessary, lift the belt up and off the variable speed pulley.

NOTE: When reassembling, make certain belt is inside the pins. See figure 25.

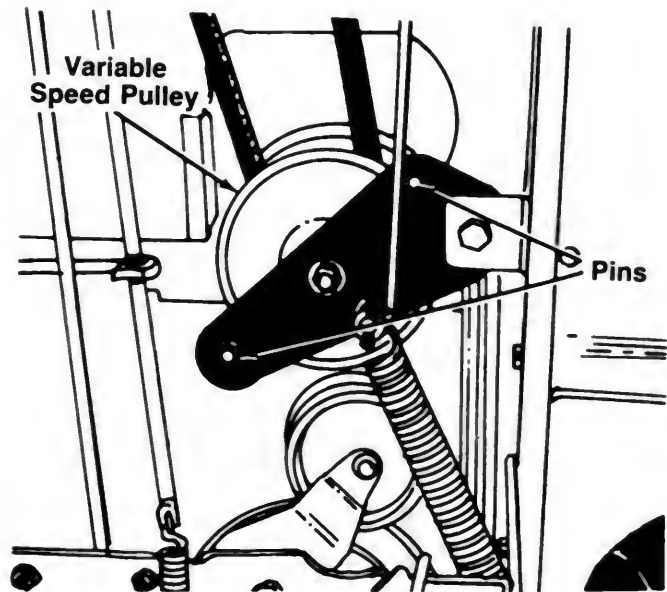


FIGURE 25.—Model 754F

9. Reassemble with a new belt, following instructions in reverse order.
10. Check the adjustment of the speed control as instructed in the Adjustment section of this manual.
11. Adjust the speed control as instructed in Adjustment section of this manual.

Model 784G:

1. To remove the front drive belt, first remove the rear drive belt from the idler pulley and variable speed pulley.
2. Use the lift lever to raise the deck to its highest position.
3. Disconnect the spring from the transmission support bracket. See figure 26.

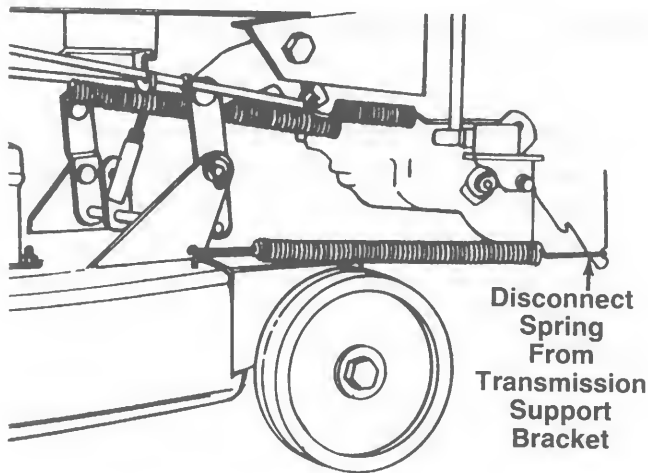


FIGURE 26.—Model 784G

4. Unplug the electric PTO.
5. Remove the torque bracket by removing two hex bolts and washers. See figure 27.
6. Remove the belt keeper assembly by removing the four self-tapping screws which hold the belt keeper assembly to the frame at the engine pulley. See figure 27.

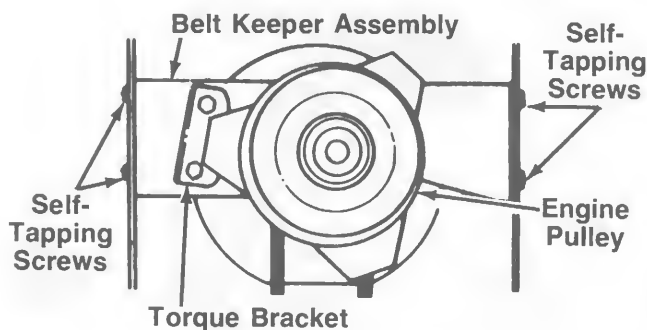


FIGURE 27.—Model 784G

7. Loosen the pin at the idler pulley, shown in figure 28.
8. Remove the electric clutch by removing the center bolt and washer.

NOTE: Be careful not to drop the electric clutch as it is heavy.

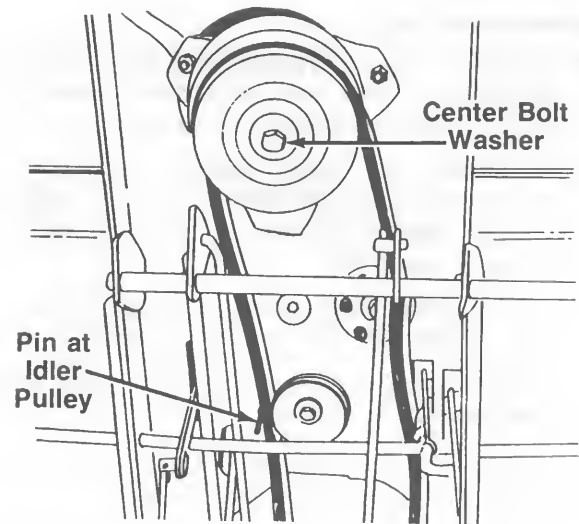


FIGURE 28.—Model 784G

9. Place the clutch-brake pedal in park position. Remove the belt from the engine pulley.
10. Move the variable speed pulley as necessary in order to remove the belt. See figure 29.

NOTE: When reassembling, make certain belt is inside the pins as shown in figure 29.

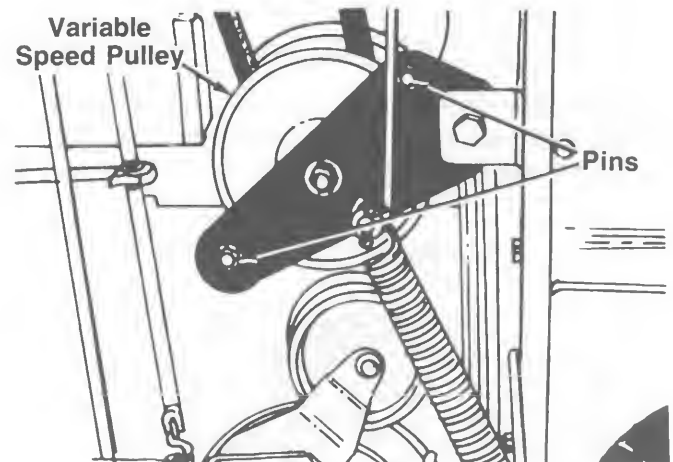


FIGURE 29.—Model 784G

11. Reassemble with a new belt, following instructions in reverse order.
12. Check the adjustment of the speed control as instructed in the Adjustment section of this manual.

BATTERY REMOVAL OR INSTALLATION



WARNING: When removing the battery, follow this order of disassembly to prevent the screwdriver from shorting against the frame.

1. Remove the Negative cable.
2. Remove the Positive cable.

To install a battery:

1. Attach the Positive cable.
2. Attach the Negative cable.

JUMP STARTING

1. Attach the first jumper cable from the Positive terminal of the good battery to the Positive terminal of the dead battery.
2. Attach the second jumper cable from the Negative terminal of the good battery to the FRAME OF THE UNIT WITH THE DEAD BATTERY.



WARNING: Failure to use this starting procedure could cause sparking, and the gas in either battery could explode.

BATTERY MAINTENANCE

1. Check periodically (every two weeks or before and after charging) to be sure electrolyte level is above the lowest line on battery. Add only distilled water or a good quality drinking water. NEVER add additional acid or other chemicals to battery after initial activation.
2. The battery should be checked with a hydrometer after every 25 hours of operation. If the specific gravity is less than 1.225, remove battery and recharge.
3. Coat the terminals and exposed wiring with a thin coat of grease or petroleum jelly for longer service and protection against electrolyte corrosion.
4. The battery should be kept clean. Any deposits of acid should be neutralized with soda and water. Be careful not to get this solution in the cells.

BATTERY STORAGE

1. Charge battery using normal methods. NEVER store discharged battery as it will not recover.
2. When storing battery for extended periods, disconnect battery cables. Removing battery from unit is recommended.
3. Store in cold, dry place.
4. Recharge battery whenever the specific gravity is less than 1.225, before returning to service, or every two months, whichever occurs first.

COMMON CAUSES FOR BATTERY FAILURE ARE:

1. Overcharging
2. Undercharging
3. Lack of water
4. Loose holds downs and/or corroded connections
5. Excessive loads
6. Battery electrolyte substitutes
7. Freezing of electrolyte

NOTE: THESE FAILURES DO NOT CONSTITUTE WARRANTY.

TIRES

Recommended operating tire pressure is approximately 12 p.s.i. (check sidewall of tire for tire manufacturer's recommended pressure). Maximum tire pressure under any circumstances is 30 p.s.i. Equal tire pressure should be maintained on all tires.

When installing a tire to the rim, be certain rim is clean and free of rust. Lubricate both the tire and rim generously. Never inflate to over 30 p.s.i. to seat beads.



WARNING: Excessive pressure (over 30 p.s.i.) when seating beads may cause tire/rim assembly to burst with force sufficient to cause serious injury.

OFF-SEASON STORAGE

If the machine is to be inoperative for a period longer than 30 days, prepare for storage as follows.

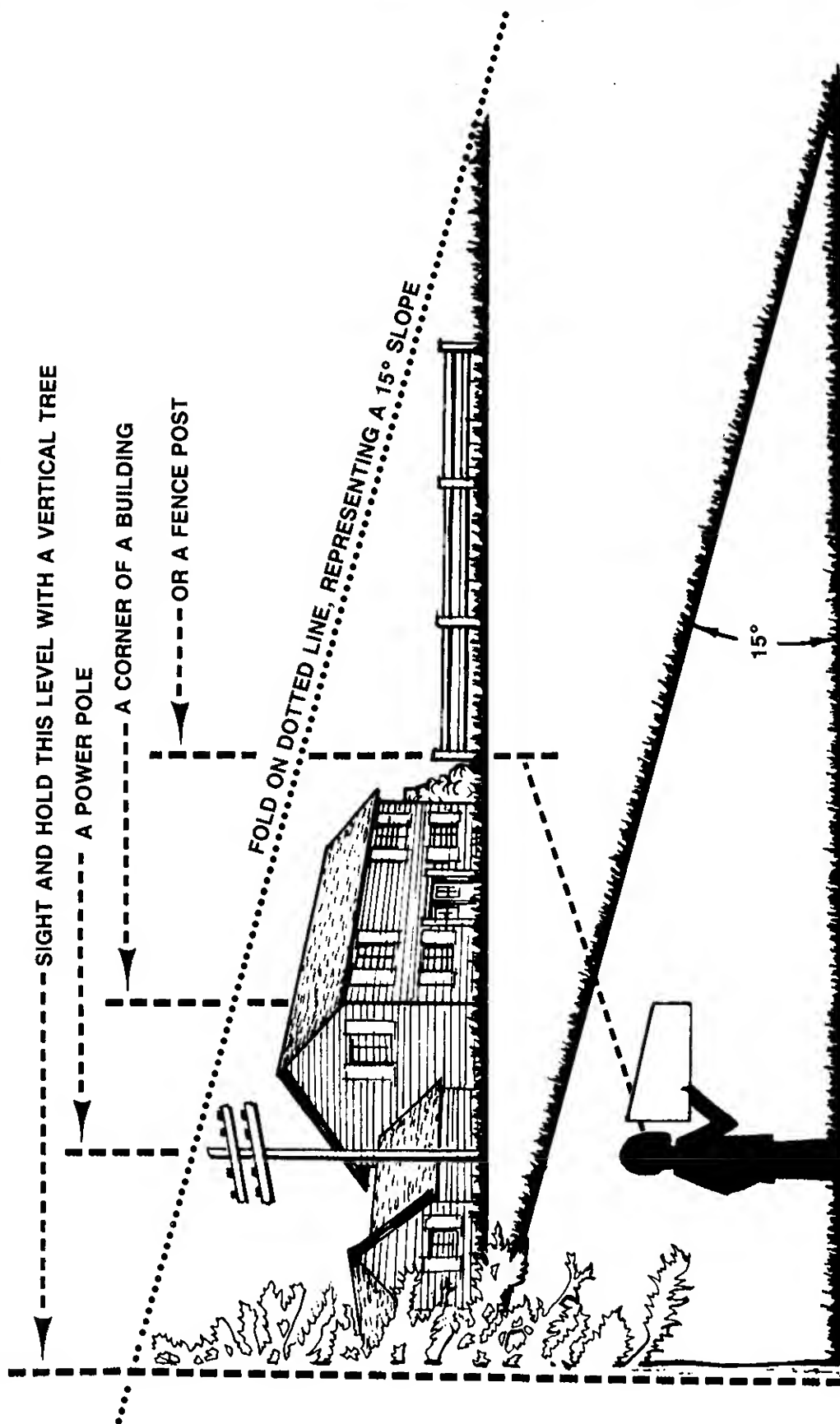
1. Clean the engine and the entire unit thoroughly.
2. Lubricate all lubrication points. Wipe the entire machine with an oiled rag to protect the surfaces.
3. Refer to the separate engine manual for correct engine storage instructions.
4. Refer to battery storage instructions in previous column.
5. Store unit in a clean, dry area.

NOTE: When storing any type of power equipment in an unventilated or metal storage shed, care should be taken to rustproof the equipment. Using a light oil or silicone, coat the equipment, especially any chains, springs, bearings and cables.

USE THIS SHEET AS A GUIDE TO DETERMINE SLOPES WHERE YOU MAY NOT OPERATE SAFELY.

SLOPE GAUGE

(Keep this sheet in a safe place for future reference.)

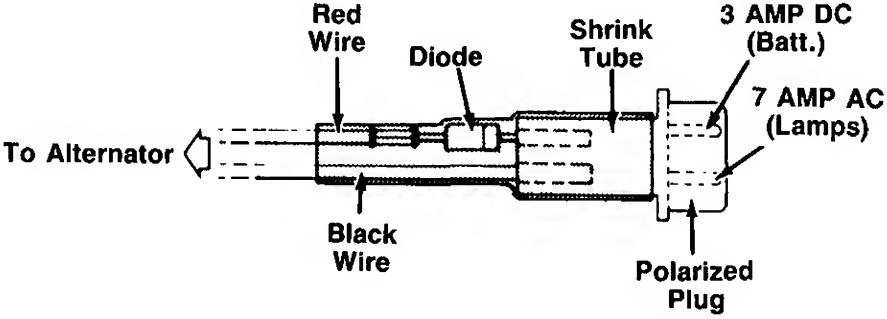


Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2½ feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious injury.

Operate RIDING mowers up and down slopes, never across the face of slopes.

Operate WALK-BEHIND mowers across the face of slopes, never up and down slopes.

TROUBLE SHOOTING GUIDE

TROUBLE	LOOK FOR	REMEDY
Engine will not crank	Battery installed incorrectly	The battery must be installed with the negative terminal, identified at the terminal post by (Neg, N or -), grounded. The positive terminal (Pos, P or +) attaches to the large cable from the solenoid. The small red wire from the fuse holder or circuit breaker is also attached to the positive terminal.
	Blown fuse or circuit breaker	Replace fuse with 7½ amp. fuse ¼ x 1¼" lg. Circuit breaker will reset itself when it cools off. Fuses or circuit breakers seldom open or fail without a reason. The problem must be corrected. Check for loose connections in the fuse holder. Replace fuse holder if necessary. A dead short may be in the cranking or charging circuit where the insulation may have rubbed through and exposed the bare wire. Replace the wire or repair with electrician's tape if the wire strands have not been damaged. Note: Look for a wire pinched between body panels, burned by the exhaust pipe or muffler or rubbed against a moving part.
	Battery is dead or weak	<p>Use a hydrometer to check the condition of the battery. The Specific Gravity (s.g.) should be 1.265 at 80°F. (1.215 s.g. minimum needed for cranking engine). The reason for the battery failing must be determined. (1) Defective battery. Battery will not accept or hold a full charge. (2) Short circuit. Check for grounded wire. (3) Charging system not working.</p> <p>The charging system is an alternator located under the flywheel. It is unregulated and rated 3 amp. at 3600 r.p.m. A diode (rectifier) is located in the output lead just before the wire harness plug on the engine side.</p> <div style="text-align: center;">  <p>The diagram shows a cross-section of the wiring harness. On the left, a red wire is labeled 'Red Wire' and a black wire is labeled 'Black Wire'. They both lead to a 'Diode' and a 'Shrink Tube'. An arrow points left from the diode area, labeled 'To Alternator'. On the right, there is a 'Polarized Plug' with two terminals. One terminal is labeled '3 AMP DC (Batt.)' and the other is labeled '7 AMP AC (Lamps)'.</p> </div> <p>The diode changes A.C. to D.C. to charge the battery. A bad diode can either fail to charge the battery or discharge the battery if the alternator is shorted as well as the diode. To test: (1) Disconnect charger lead from the battery (small red wire). (2) Connect 12 V small test lamp between the 3 amp. D.C. charge lead and the positive terminal of the battery. (3) With the engine off, the lamp should not light. If it does, the diode and possibly the alternator should be replaced. (4) Start the engine. The lamp should light. If it does not, the alternator (stator) or lead wire is bad and should be replaced.</p>
	Mechanical failure (Wires and switches)	The interlock system includes two mechanical activated switches which are wired in series in the circuit used to energize the starter solenoid. While testing the interlock system, you will make the mower temporarily unsafe by permitting the engine to be started with the blade and clutch engaged. WARNING: While testing, disengage the clutch, shut off the blade control, set the parking brake and place the gear shift lever in neutral. Attach a wire (minimum 18 gauge) to the positive terminal of the battery and touch the other end to the small terminal on the solenoid. If the engine does not crank: (1) There is a loose connection or poor ground. (2) The solenoid may be bad. The solenoid can be checked by using a heavy wire (#8 gauge minimum) and jumping between the two large terminals. If the engine cranks, the solenoid is bad. (3) If the engine does not crank when you jump the solenoid, have the starter motor tested by an authorized engine dealer. If the engine does crank, the problem is with one of the safety switches, ignition switch or the wire between the fuse holder (or circuit breaker) and the small terminal on the solenoid. Note: Look for a poor connection at the switches or a defective switch. Replace if necessary.
Engine cranks but will not start	Throttle or choke not in starting position	Check owner's guide for correct position for throttle control and choke for starting.
	No spark to spark plug	<p>Spark plug lead disconnected. Connect lead. Hold spark plug lead away from engine block about 1/8". Crank engine. There should be a spark. If not, have engine repaired at authorized engine service dealer.</p> <p>Faulty spark plug. To test, remove spark plug. Attach spark plug lead to spark plug. Ground the spark plug body against the engine block. Crank the engine. The spark plug should fire at the electrode. Replace if it does not.</p>

TROUBLE SHOOTING GUIDE (Continued)

TROUBLE	LOOK FOR	REMEDY
	No fuel to the carburetor	Gasoline tank empty. Fill. Fuel line or in-line fuel filter plugged. Remove and clean fuel line. Replace filter if necessary.
	Air filter dirty	If the air cleaner is dirty, the engine may not start. Clean or replace as recommended by the engine manufacturer.
Engine smokes	Engine loses crankcase vacuum	Dipstick not seated or broken. Replace defective part. Engine breather defective. Replace.
Excessive vibration	Bent or damaged blade spindle	Stop engine immediately. Check all pulleys, blade adapters, keys and bolts for tightness and damage. Tighten or replace any damaged parts.
	Bent blade	Stop engine immediately. Replace damaged blade. Only use original equipment blades.
Mower will not discharge grass or leaves uncut strips	Engine speed low Transmission selection Blades short or dull	Throttle must be set between 3/4 and full throttle. Use lower transmission speed. The slower your ground speed, the better the quality of cut. Sharpen or replace blades (uncut strip problem only).

TWO YEAR LIMITED WARRANTY

For two years from the date of original retail purchase, YARD-MAN COMPANY will either repair or replace, at its option, free of charge, F.O.B. factory or authorized service firm, any part or parts found to be defective in material or workmanship. Transportation charges for the movement of any power equipment unit or attachment are the responsibility of the purchaser. Transportation charges for any parts submitted for replacement under this warranty must be paid by the purchaser unless such return is requested by YARD-MAN COMPANY.

This warranty will not apply to any part which has become inoperative due to misuse, excessive use, accident, neglect, improper maintenance, alterations, or if the unit has not been operated and maintained in accordance with the instructions furnished. This warranty does not apply to the engine, Peerless components, motor, battery (except as noted below) or component parts thereof. Please refer to the applicable manufacturer's warranty on these items.

A battery which proves defective within ninety (90) days will be replaced without charge. After 90 days but within one hundred twenty (120) days of purchase, YARD-MAN COMPANY will replace the defective battery for a charge of 1/2 of the current retail price of the battery in effect at the date of return.

Warranty on units used commercially is limited to sixty (60) days.

Warranty service is available through your local authorized service dealer or distributor. If you do not know the dealer or distributor in your area, please write to the Customer Service Department of YARD-MAN.

The return of a complete unit will not be accepted by the factory unless prior written permission has been extended by YARD-MAN.

This express limited warranty is in lieu of all other warranties, express or implied, including any implied warranty of merchantability. The remedy of replacement is the sole and exclusive remedy for YARD-MAN obligations arising from the sale of its products. In no case will YARD-MAN be liable for incidental or consequential loss or damage.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.